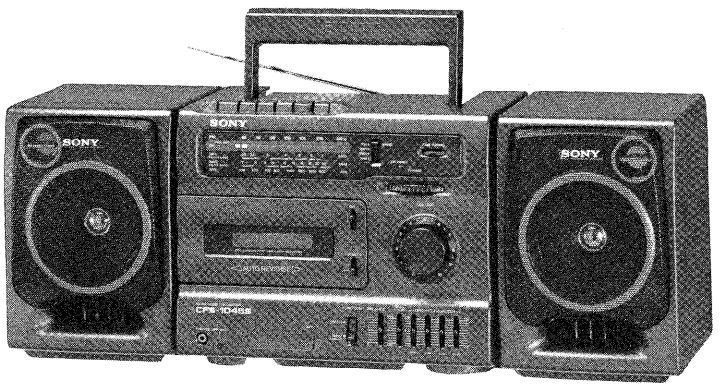
CFS-1045S

SERVICE MANUAL

E Model



Model Name Using Similar Mechanism	CFS-1040S
Tape Transport Mechanism Type	MF-1045-102

SPECIFICATIONS

Frequency range

Sales area	FM	MW	SW
Saudi Arabia	87.6–107 MHz	530–1,605 kHz	SW1: 2.3–7 MHz SW2: 7–22 MHz
Other Countries	87.6–108 MHz		

Aerials	FM/SW: Telescopic aerial MW: Built-in ferrite bar aerial
Recording system	4-track, 2-channel stereo
Frequency response	100–10,000 Hz
Speakers	Two way 10 cm (4 inches) dia. full range × 2 2 cm ($^{13}/_{16}$ inches) dia. tweeter × 2
Outputs	PHONES jack (stereo minijack) for 16–68 ohm impedance headphones Speaker terminals for supplied 3.2 ohms impedance speaker
Maximum power output	6 W (3 W + 3 W)
Power requirements	110–120 V, 220–240 V AC adjustable, 50/60 Hz 9 V DC, six R20 (size D) batteries
Power consumption	14 W

Battery life

Batteries	FM recording	Tape playing
Sony SUM-1 (NS)	Approx. 12 hours	Approx. 6 hours
Sony AM1 alkaline	Approx. 27 hours	Approx. 16 hours

Dimensions	Approx. 579 × 220 × 180.5 mm (w/h/d) ($22\ ^{7}/_{8} \times 8\ ^{3}/_{4} \times 7\ ^{1}/_{8}$ inches) incl. projecting parts and controls, not incl. handle
Mass	Approx. 4.8 kg (10 lb 9 oz) incl. batteries
Accessory supplied	Mains lead (1)
Optional accessories	Sony "MDR"headphone series

Design and specifications subject to change without notice.

RADIO CASSETTE-CORDER

SONY®

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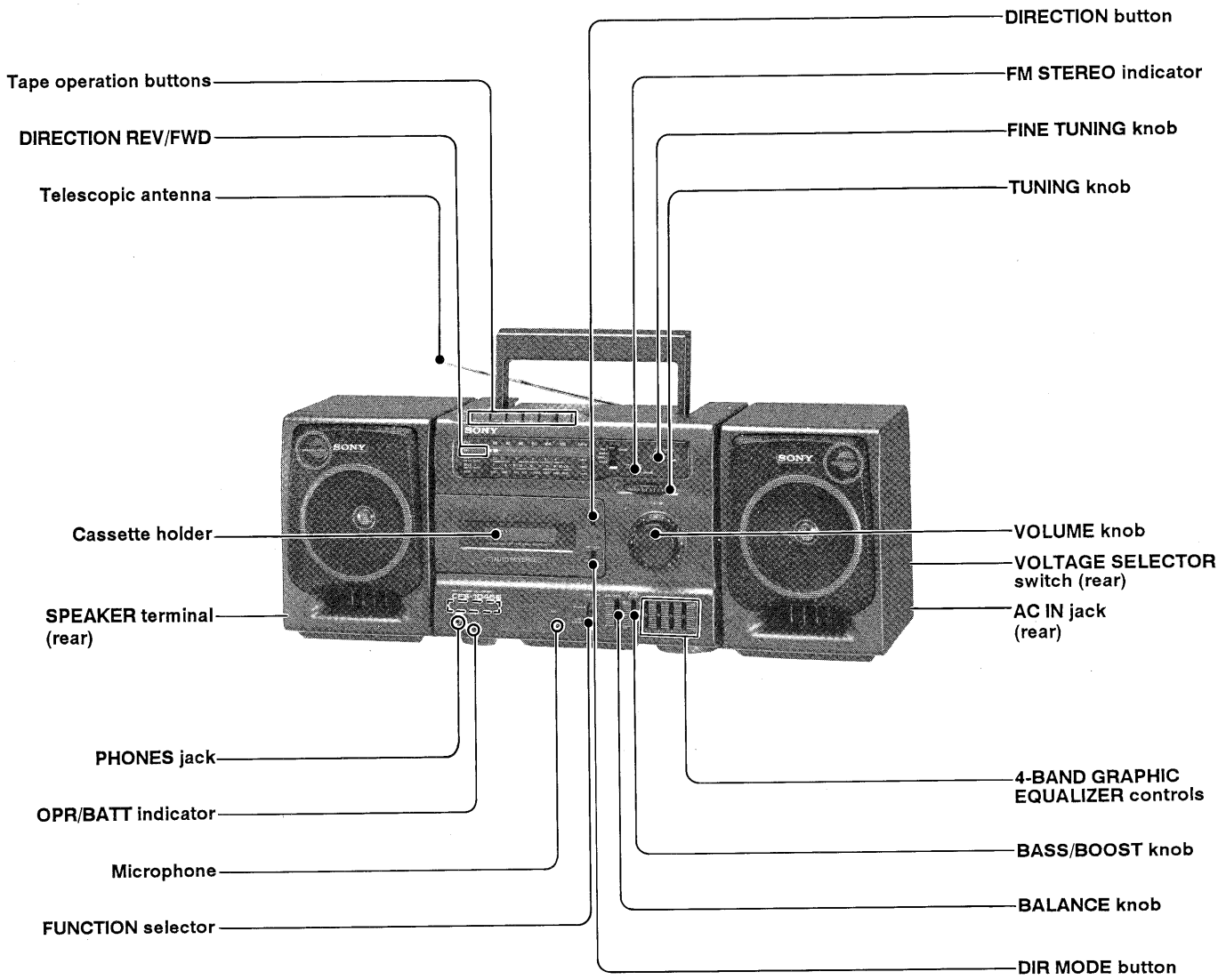
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

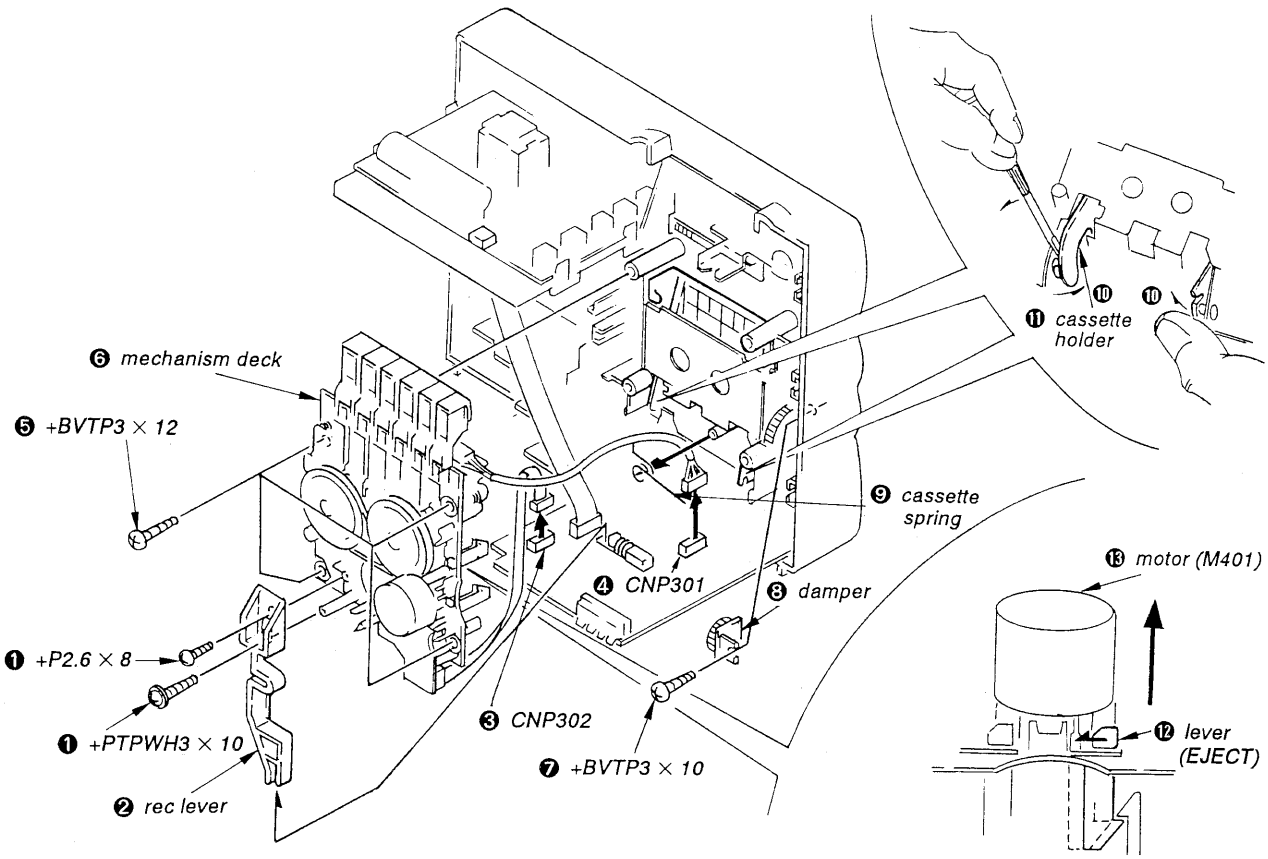
LOCATION AND FUNCTION OF CONTROLS



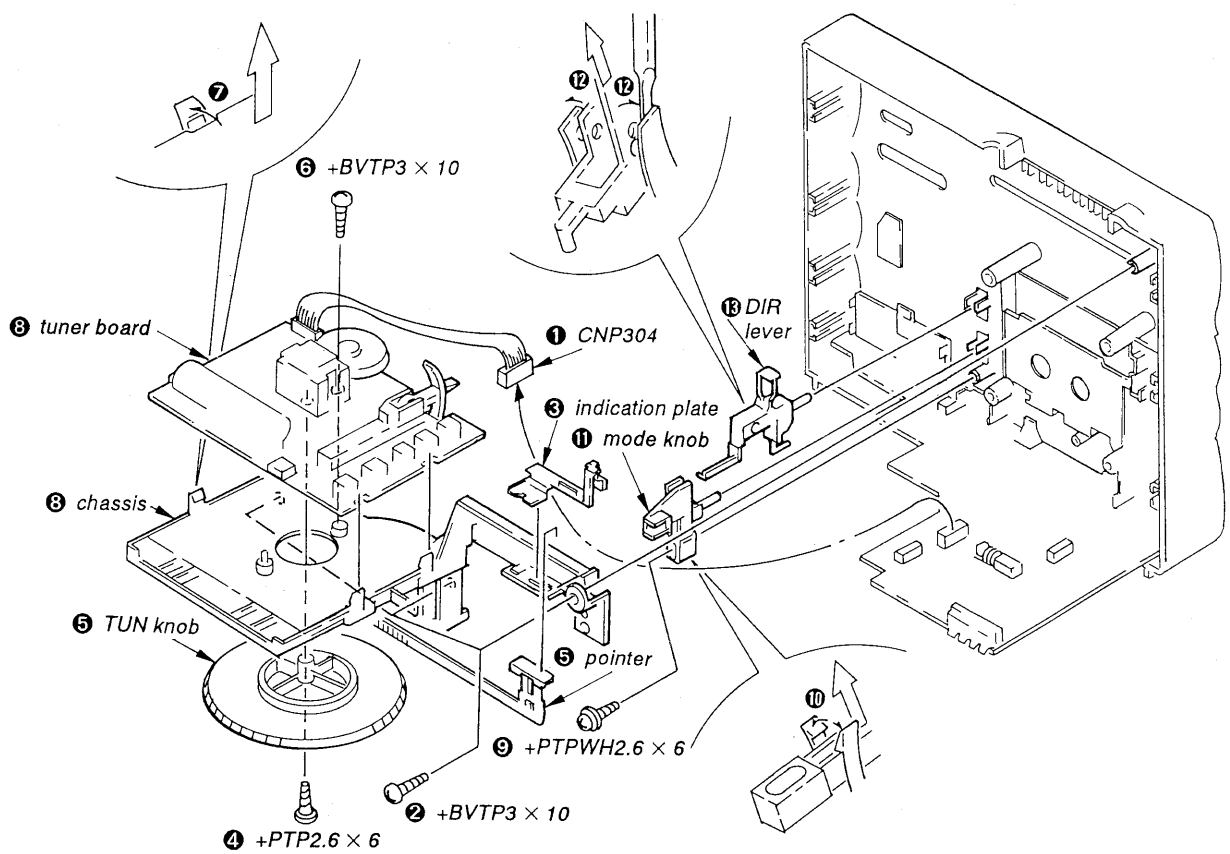
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

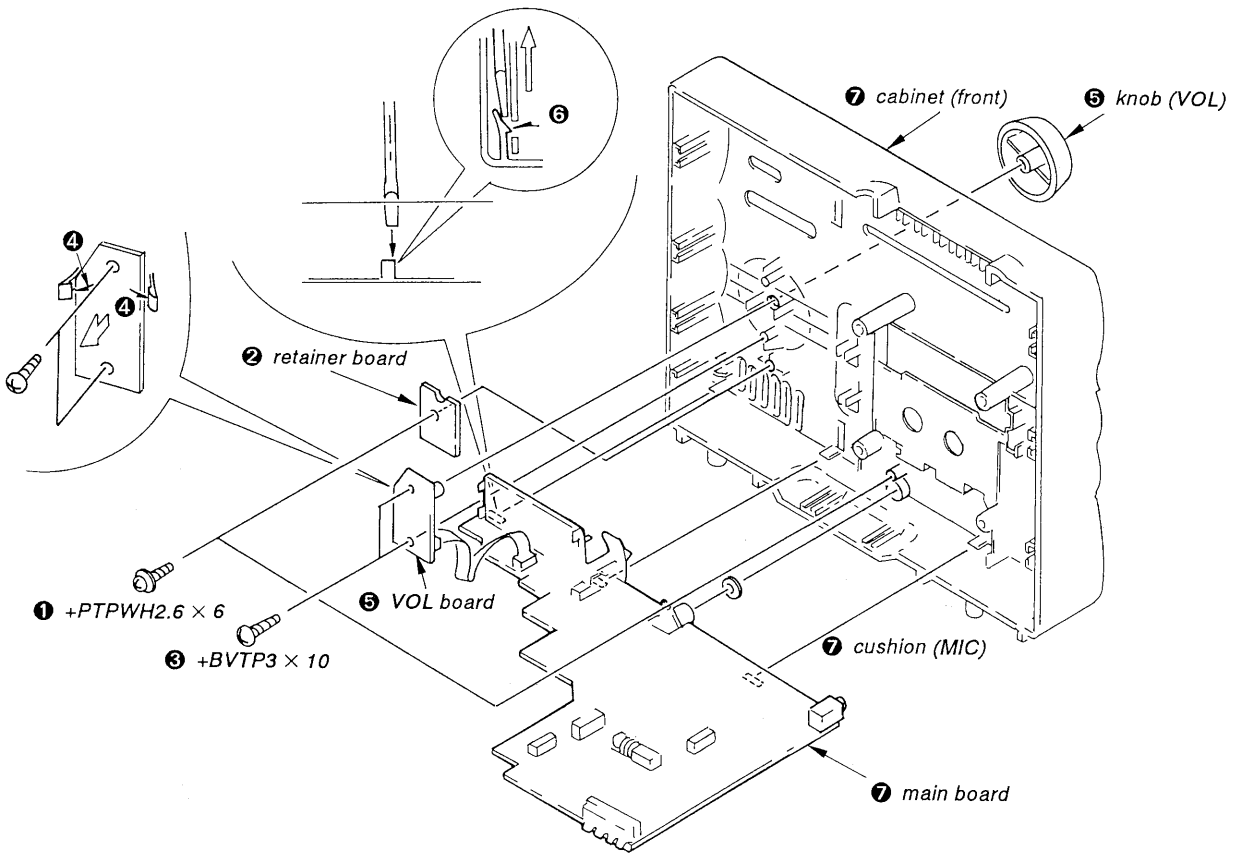
MECHANISM DECK, CASSETTE HOLDER, MOTOR (M401)



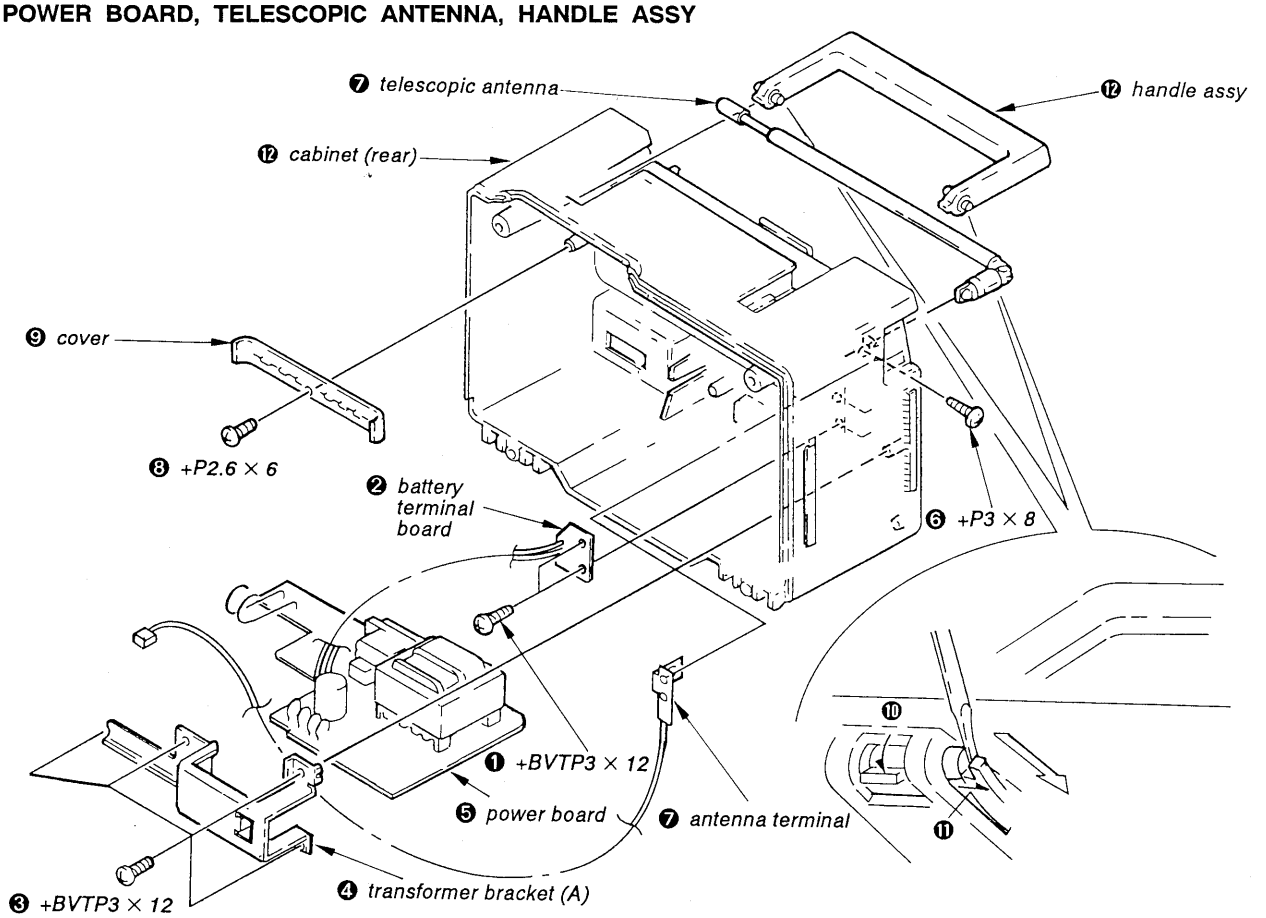
TUNER SECTION



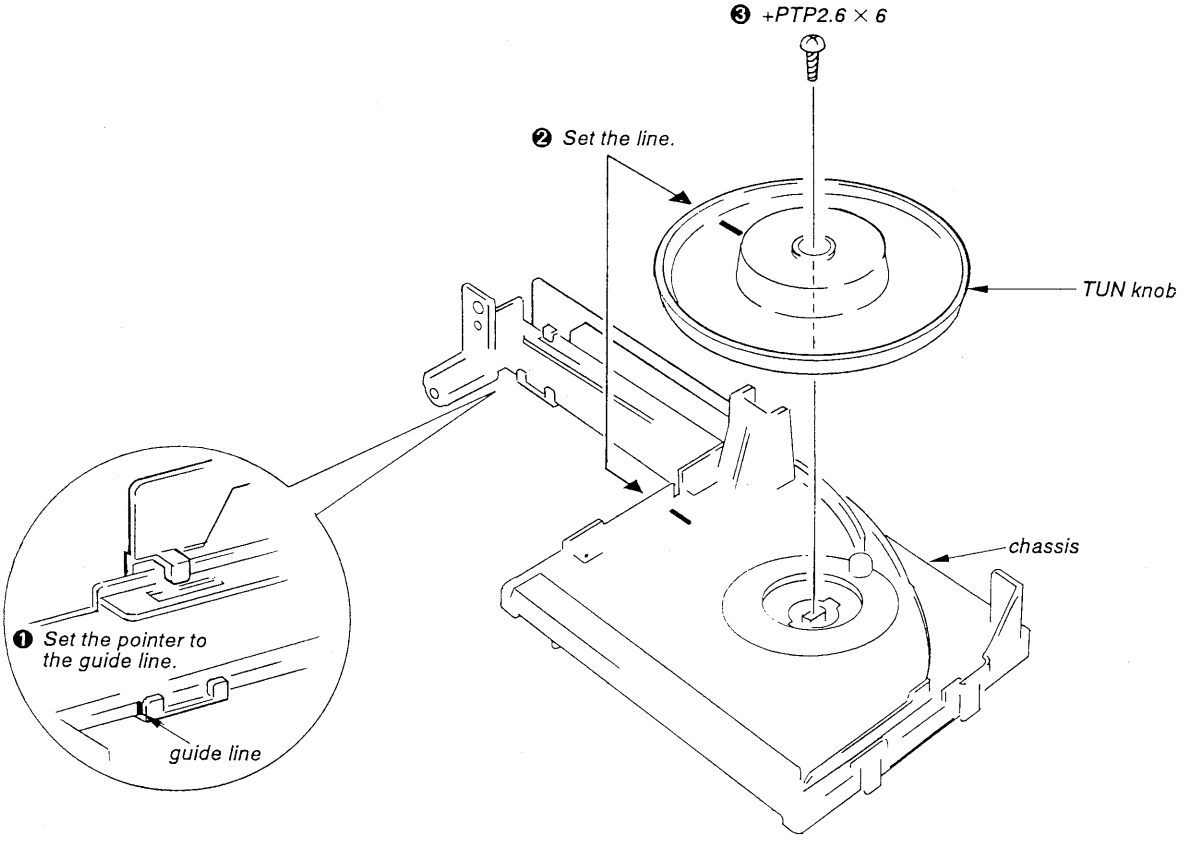
MAIN BOARD, VOL BOARD, KNOB (VOL)



POWER BOARD, TELESCOPIC ANTENNA, HANDLE ASSY



POINTER SETTING



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head　　pinch roller
   erase head　　rubber belts
   capstan　　idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

1. Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	22 – 55g•cm (0.31 – 0.76 oz•inch)
FWD Back tension		2 – 5g•cm (0.03 – 0.06 oz•inch)
REV	CQ-102RC	22 – 55g•cm (0.31 – 0.76 oz•inch)
REV Back tension		2 – 5g•cm (0.03 – 0.06 oz•inch)
FF	CQ-201B	more than 60g•cm (0.84 oz•inch)
REW	CQ-201B	more than 55g•cm (0.77 oz•inch)

2. Tape Tension Measurement

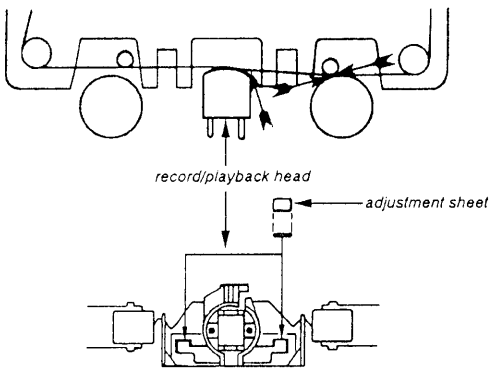
Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 100g (3.53 oz)
REV	CQ-403R	more than 100g (3.53 oz)

3. Head Height Adjustment

Procedures :

1) Test cassette : CQ-009C
2) Set the unit to the playback mode.
3) Adjust the head heights to eliminate a tape curl and a tape twist at the portions of the arrow by using the head height adjustment sheet.

• DECK



Adjustmet sheet

3-377-197-01(t=0.09)　　3-377-197-31(t=0.165)
3-377-197-11(t=0.115)　　3-377-197-41(t=0.23)
3-377-197-21(t=0.14)

3-2. ELECTRICAL ADJUSTMENTS

TAPE SECTION

1. The adjustments should be performed in the order given in the service manual.(As a general rule. playback circuit adjustment should be completed before performing recording circuit adjustment.)
2. The adjustments should be performed for both L-CH and R-CH unless otherwise indicated.

• Switch location

FUNCTION ····· TAPE (RADIO OFF)
GRAPHIC EQUALIZER·· center click
BALANCE ····· center click
VOLUME ····· mechanical center

Standard Input Level

	MIC IN
source impedance	300 Ω
input level	3.085mV(– 48dB)

Standard Output Level

	SP OUT	PHONES
load impedance	3.2 Ω	32 Ω
output level	0.775V(0dB)	0.25V(– 10dB)

Test Tape

Type	Signal	Used for
WS-48B	3kHz, 0dB	Tape Speed Adjustment

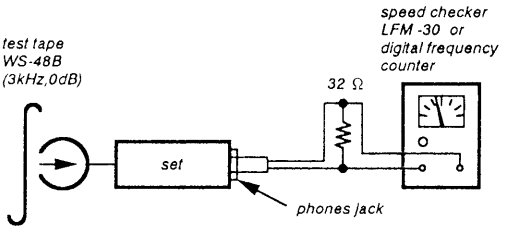
0 dB=0.775V

Tape Speed Adjustment

setting :

Mode : playback

Procedure :

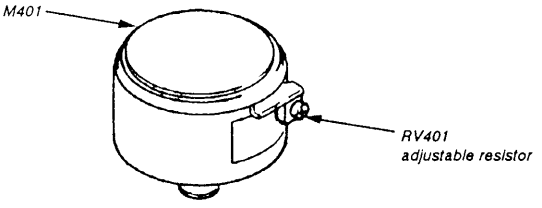


Adjustmet Values :

Speed checker	Digital frequency counter
± 3%	2,910 to 3,090Hz

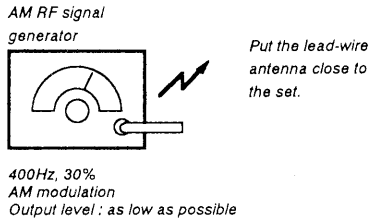
Frequency difference between the beginning and the end of the tape should be within 1%(30Hz).

Adjustment Location :

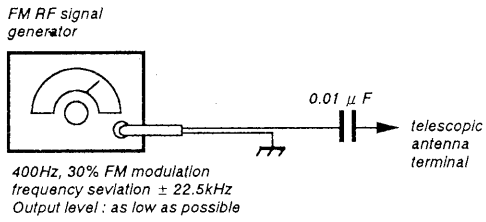


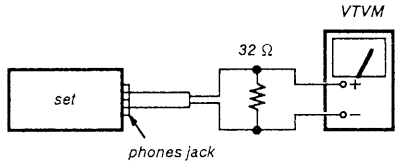
TUNER SECTION

AM Section



FM Section


FM RF signal generator
0.01 μ F
telescopic antenna terminal
400Hz, 30% FM modulation
frequency seviation ± 22.5kHz
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

no mark : E, United Arab Emirates Model
( ) : Saudi Arabia Model

※ Set VR1 (FINE TUNING) to the mechanical center

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
T1	455 kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	600 kHz
CT3	1,400 kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	520 kHz
CT4	1,680 kHz

SW1 TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	f min
CT5	f max

SW1 FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L6	2.2 MHz
CT6	7.3 MHz

SW2 TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	f min
CT7	f max

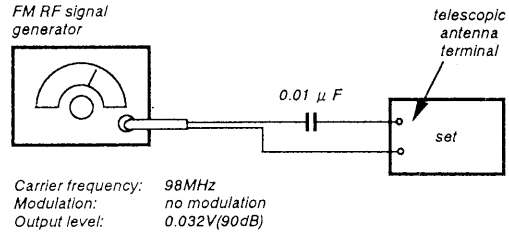
SW2 FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L8	6.8 MHz
CT8	22.5 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	86.5 MHz (87.35 MHz)
CT1	109.5 MHz (107.8 MHz)

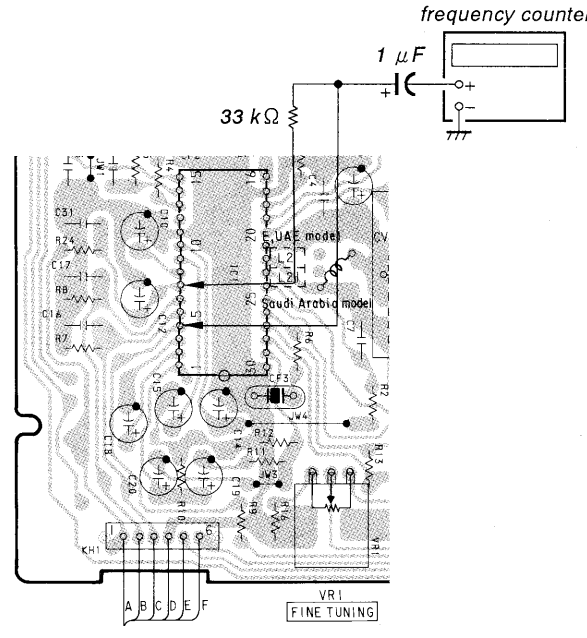
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	86.5 MHz (87.35 MHz)
CT2	109.5 MHz (107.8 MHz)

VCO Adjustment

procedure :

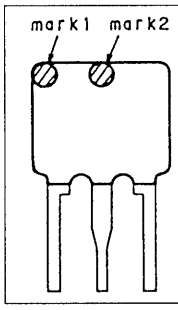


1. Connect a frequency counter to ④ and ⑦ pins of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 76kHz ± 500Hz reading on frequency counter.



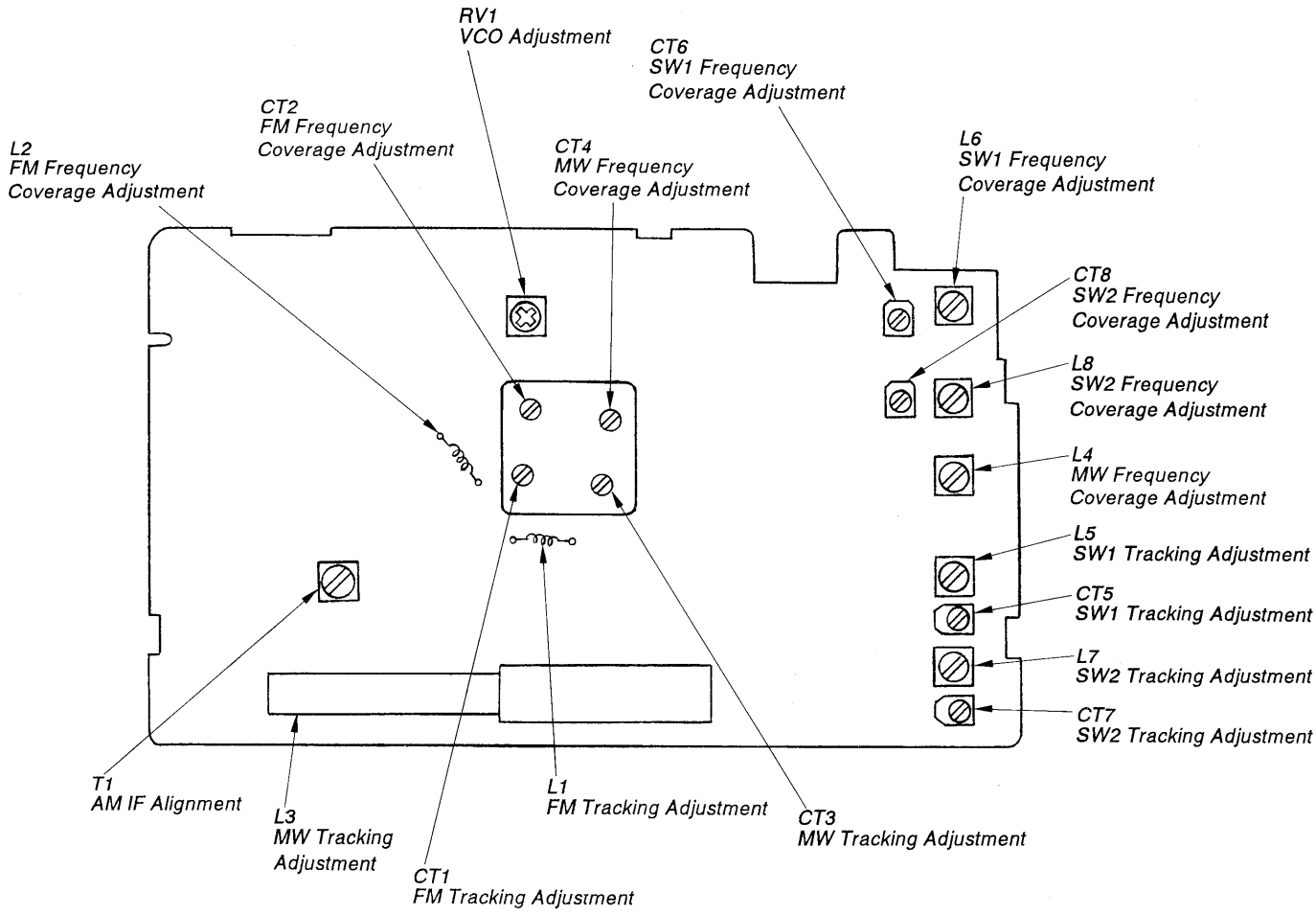
Note:

This set employs three ceramic filters (CF1, 2 and 4) which should have the same color marking to identify their center frequency.

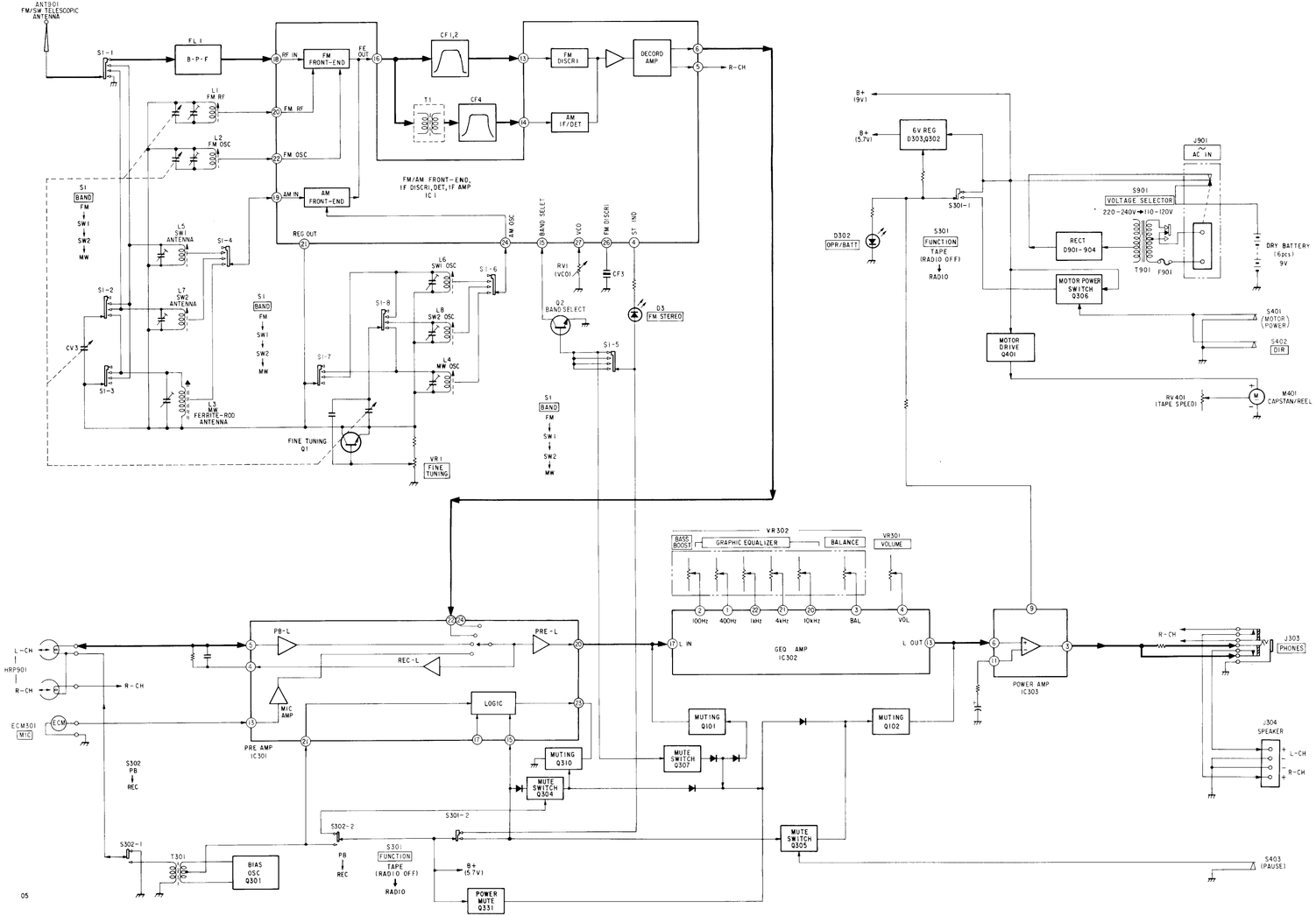


mark 1	mark 2	Carrier Frequency
red	–	10.70 MHz
blue	–	10.67 MHz
orange	–	10.73 MHz
black	–	10.64 MHz
white	–	10.76 MHz
white	white	10.75 MHz
yellow	–	10.79 MHz

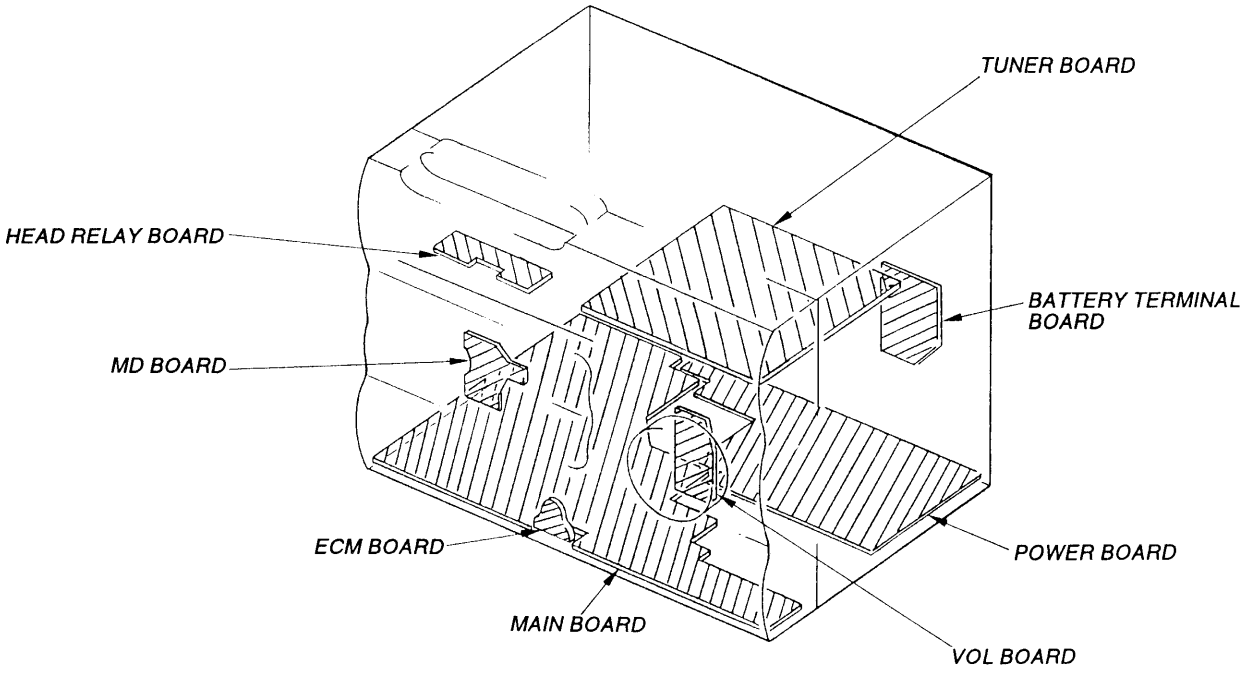
Adjustment Location : Tuner board (Component side)



4-1. BLOCK DIAGRAM

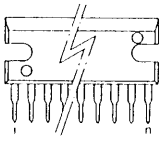


• **Circuit Boards Location**

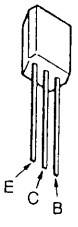


• **Semiconductor Lead Layouts**

LA4598

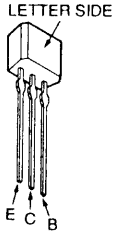


RN1202
RN1210
RN2202

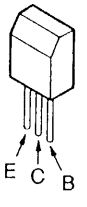


2SA952
2SC945-P

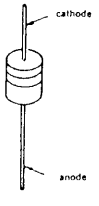
2SC2410S-TPN



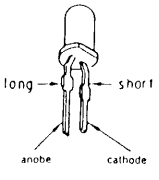
2SD773-34



RD6.8ES-B2
1SS133



TLR124

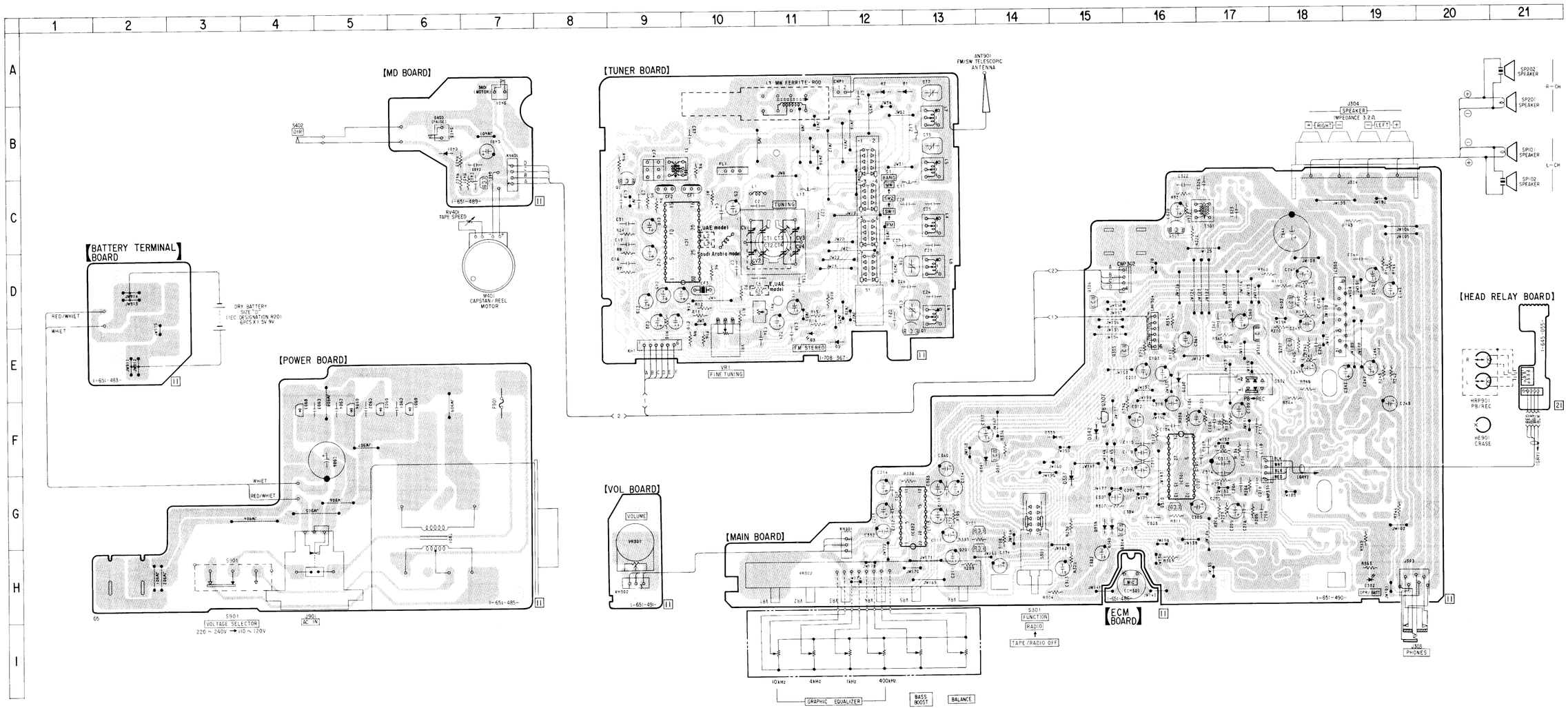


Note:

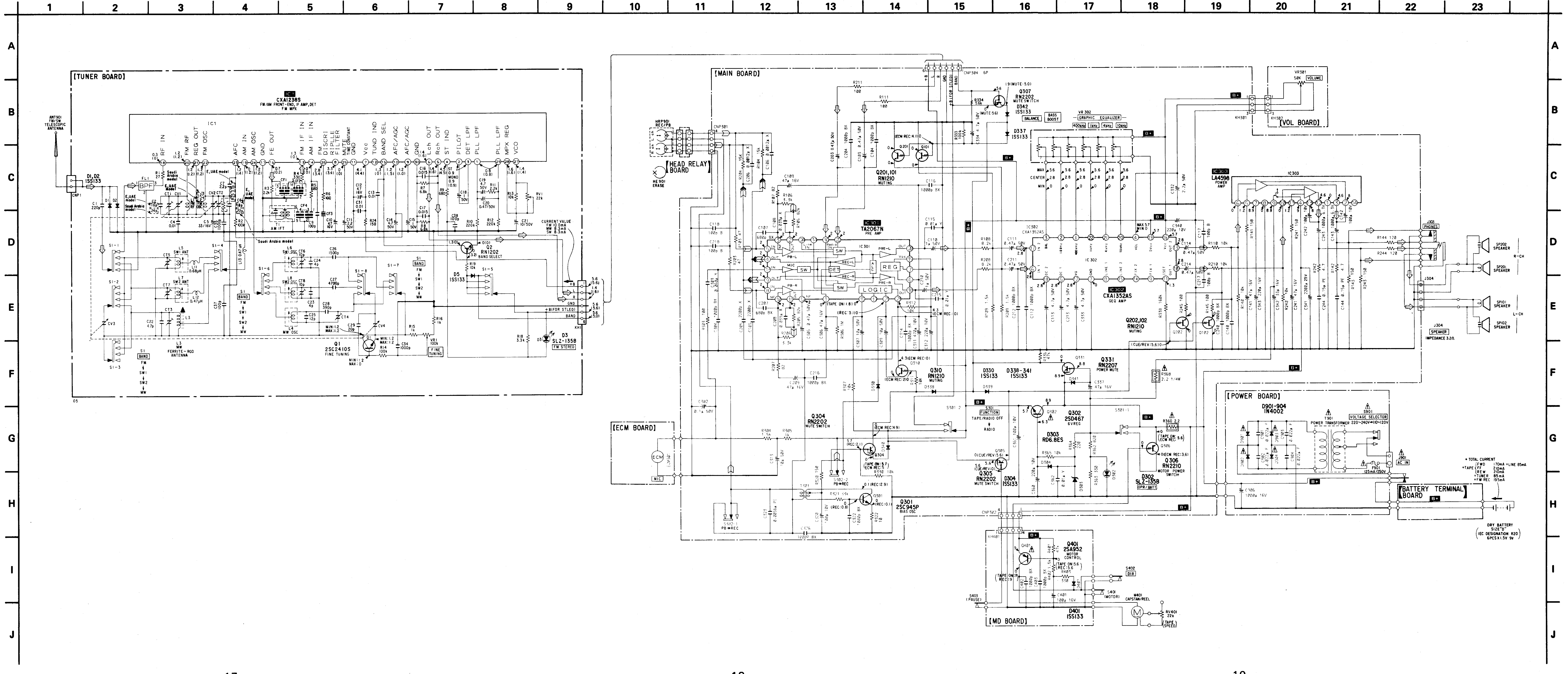
• ○——— : parts extracted from the component side.

• **Semiconductor Location**

Ref. No.	Location
D1	A-13
D2	A-12
D3	E-11
D5	E-12
D302	H-19
D303	E-17
D304	E-17
D330	E-16
D337	G-15
D338	G-15
D339	F-15
D340	G-15
D341	F-14
D342	F-15
D401	B-6
D901	F-6
D902	F-5
D903	F-4
D904	F-5
IC1	C-9
IC301	G-16
IC302	G-13
IC303	D-18
Q1	E-13
Q2	C-9
Q101	G-13
Q102	D-18
Q201	H-13
Q202	E-18
Q301	C-16
Q302	E-17
Q304	G-15
Q305	E-15
Q306	D-15
Q307	F-15
Q310	G-16
Q331	F-14
Q401	C-7

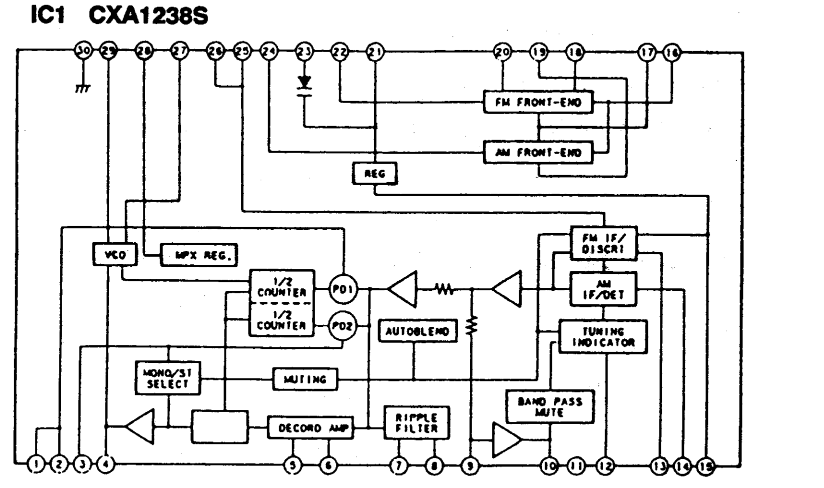


4-3. SCHEMATIC DIAGRAM

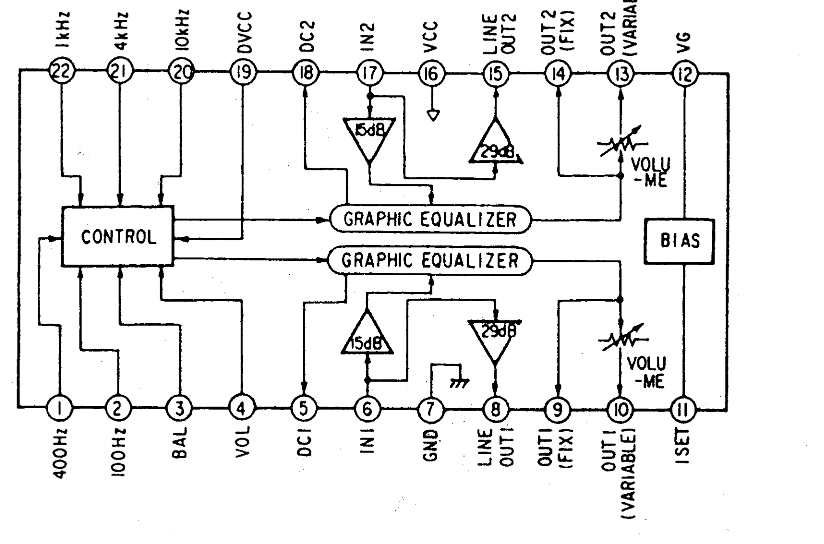

[TUNER BOARD]
IC1 CXA1238S FM/AM FRONT-END, IF AMP, DET FM MPX
[MAIN BOARD]
IC301 TA2067N PRE AMP
IC302 CXA1352AS GEQ AMP
IC303 LA4598 POWER AMP
[HEAD RELAY BOARD]
[VOL BOARD]
[ECM BOARD]
[POWER BOARD]
[MD BOARD]
[BATTERY TERMINAL BOARD]
Q1 2SC2410S FINE TUNING
Q2 RN1202 BAND SELECT
D3 SLZ-135B FM STEREO
Q201,101 RN1210 MUTING
Q202,102 RN1210 MUTING
Q301 2SC945P BIAS OSC
Q302 2SD467 6VREG
Q304 RN2202 MUTE SWITCH
Q305 RN2202 MUTE SWITCH
Q306 RN2210 MOTOR POWER SWITCH
Q307 RN2202 MUTE SWITCH
Q310 RN1210 MUTING
Q331 RN2207 POWER MUTE
Q401 2SA952 MOTOR CONTROL
D303 RD6.8ES
D302 SLZ-135B OPR/BATT
T901 POWER TRANSFORMER
S901 VOLTAGE SELECTOR 220~240V↔110~120V
J901 AC IN
F901 125mA/250V
D901-904 1N4002
J303 PHONES
J304 SPEAKER IMPEDANCE 3.2Ω
SP201 SPEAKER
SP202 SPEAKER
SP101 SPEAKER
SP102 SPEAKER
VR301 50K VOLUME
VR302 GRAPHIC EQUALIZER
M401 CAPSTAN/REEL
RV401 22k TAPE SPEED
• TOTAL CURRENT
°TAPE FWD 170mA FF 210mA REW 210mA
°TUNER 85mA
°FM REC 195mA
°LINE 85mA
DRY BATTERY SIZE "D" (IEC DESIGNATION R20) 6PCS X 1.5V 9V

• IC BLOCK DIAGRAMS

IC1 CXA1238S



IC302 CXA1352AS



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- [nonflammable resistor symbol] : nonflammable resistor.

- B+ : B + Line.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  TUNER BOARD
  no mark : COMMON (FM)
  ( ) : AM
  except TUNER BOARD
  no mark : LINE IN
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⪢ : PB
  ⪢⪢ : REC

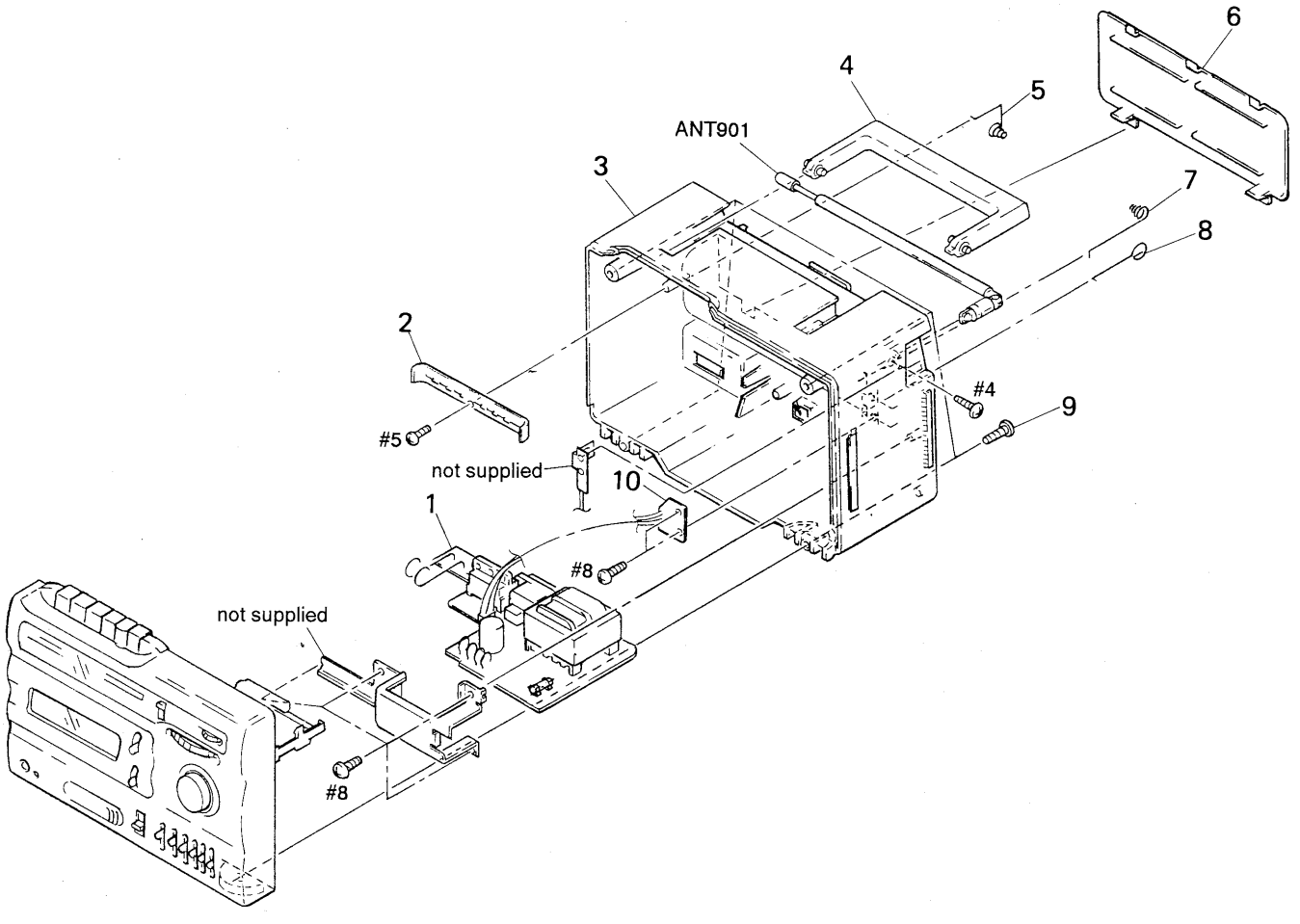
SECTION 5
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviation
  UAE: United Arab Emirates

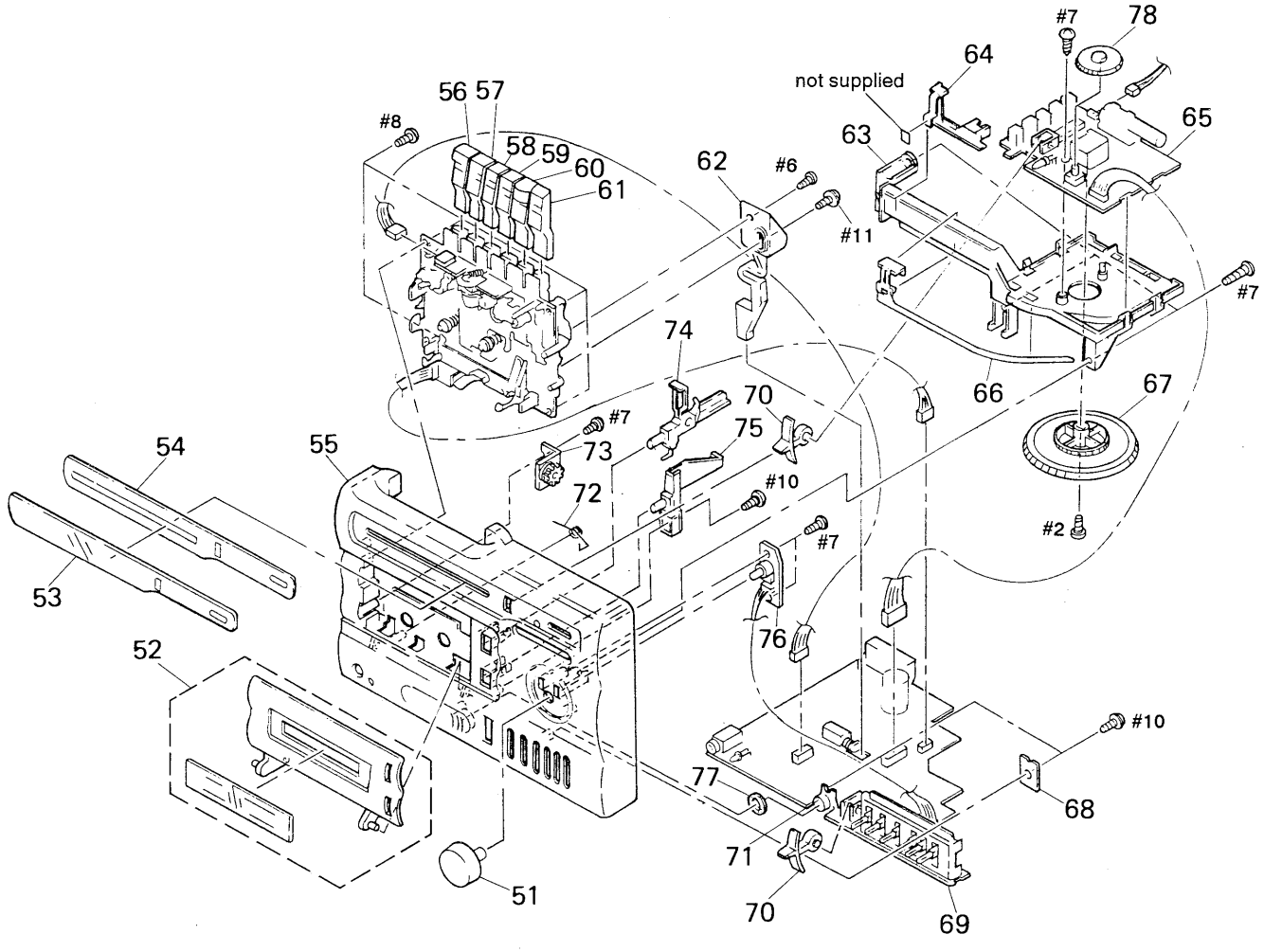
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 1	1-651-485-11	POWER BOARD	
2	3-907-664-01	COVER	
3	3-907-618-01	CABINET (REAR) (E)	
3	3-907-618-21	CABINET (REAR) (Saudi Arabia, UAE)	
4	A-3208-859-A	HANDLE ASSY	
5	3-364-532-01	TERMINAL (+, -), BATTERY	
6	3-364-556-01	LID, BATTERY CASE	
7	3-377-314-01	TERMINAL (-), BATTERY	
8	3-377-319-01	TERMINAL (+), BATTERY	
9	3-325-679-31	SCREW, TAPPING +BV 3X14	
* 10	1-651-483-11	BATTERY TERMINAL BOARD	
ANT901	1-501-383-21	ANTENNA, TELESCOPIC (FM/SW)	

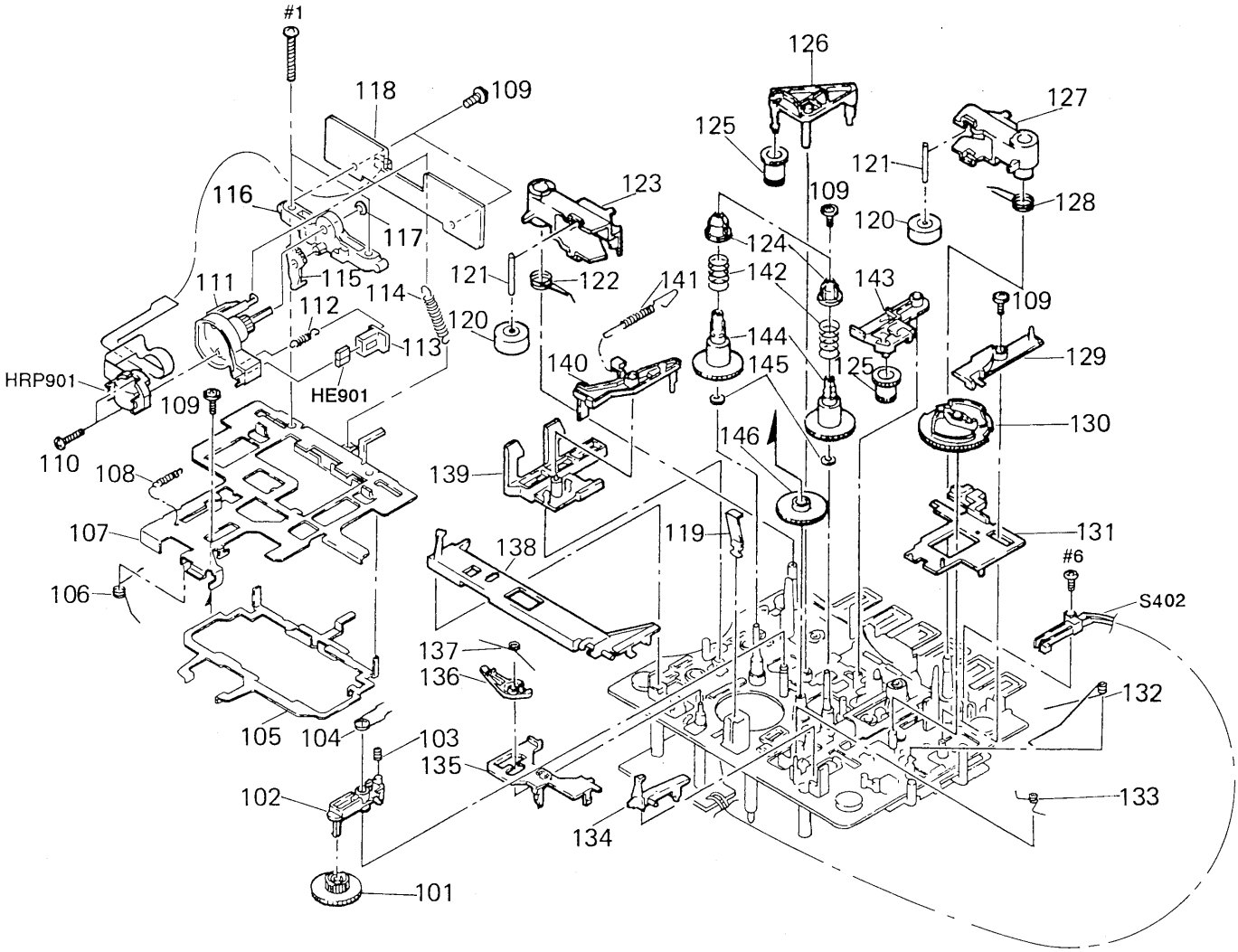
(2) FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-364-526-01	KNOB (VOL)	
52	A-3300-327-A	HOLDER ASSY, CASSETTE	
53	3-910-468-01	PANEL, DIAL (E, UAE)	
53	3-910-468-21	PANEL, DIAL (Saudi Arabia)	
54	3-910-470-01	SHEET, ADHESIVE (D)	
55	3-907-617-01	CABINET (FRONT)	
56	3-907-629-01	BUTTON, S/E	
57	3-907-624-01	BUTTON, PAUSE	
58	3-907-625-01	BUTTON, FF	
59	3-907-626-01	BUTTON, REW	
60	3-907-627-01	BUTTON, PLAY	
61	3-907-628-01	BUTTON, REC	
62	3-907-630-01	LEVER, REC	
63	3-910-439-01	CHASSIS	
64	3-907-661-01	PLATE, INDICATION	

Ref. No.	Part No.	Description	Remark
* 65	A-3269-071-A	TUNER BOARD, COMPLETE (E, UAE)	
* 65	A-3269-091-A	TUNER BOARD, COMPLETE (Saudi Arabia)	
66	3-907-641-01	POINTER	
67	3-907-638-01	KNOB, TUN	
* 68	1-651-484-11	RETAINER BOARD	
* 69	A-3269-075-A	MAIN BOARD, COMPLETE	
70	3-364-523-01	KNOB (FUNCTION)	
* 71	1-651-486-11	ECM BOARD	
72	3-907-655-01	SPRING, CASSETTE	
73	3-351-377-01	DAMPER	
74	3-907-659-01	LEVER, DIR	
75	3-907-660-01	KNOB, MODE	
* 76	1-651-491-11	VOL BOARD	
77	3-366-963-01	CUSHION (MIC)	
78	3-907-639-01	KNOB, F/T	

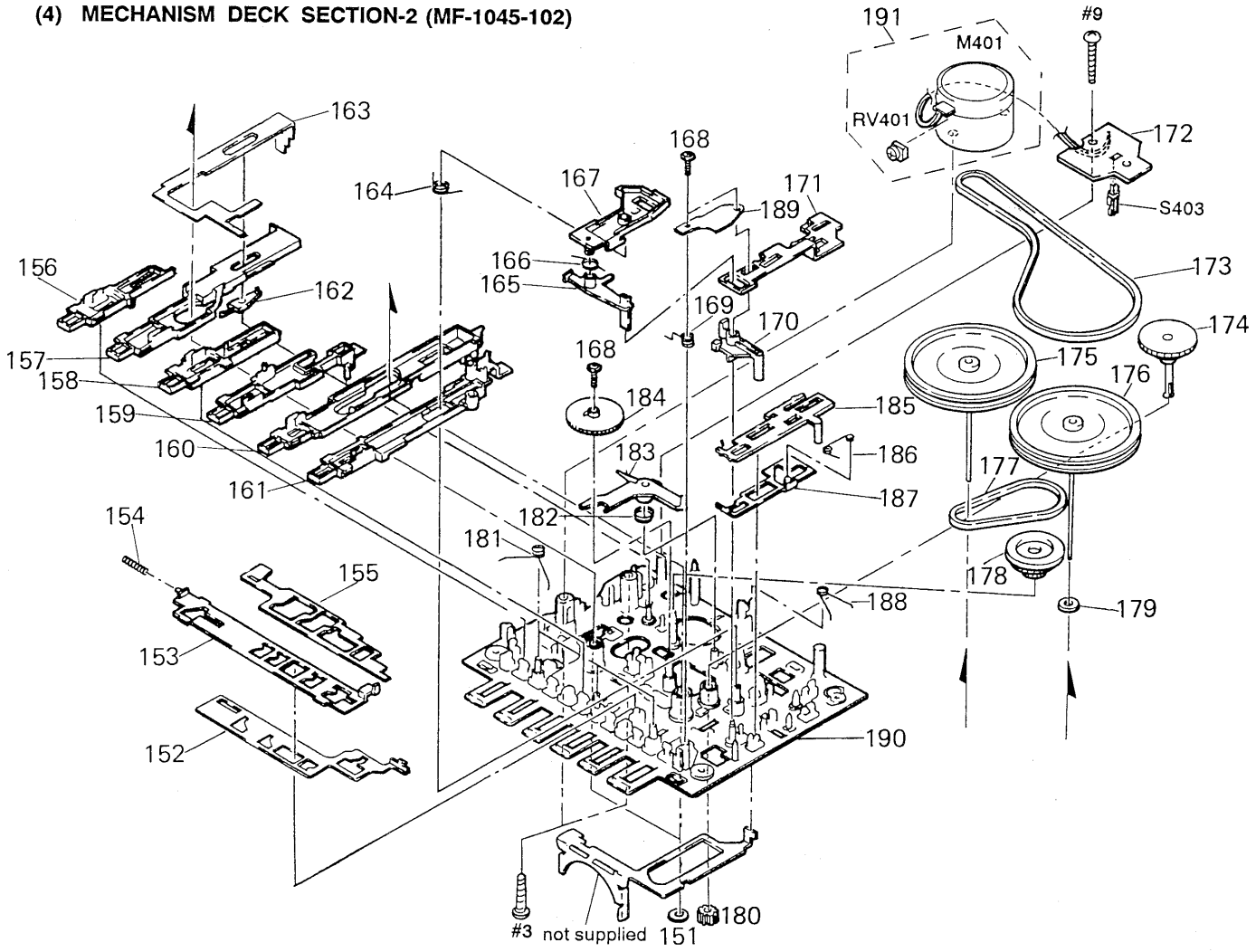
(3) MECHANISM DECK SECTION-1 (MF-1045-102)



Ref. No.	Part No.	Description	Remark
101	3-374-328-01	GEAR, FWD	
102	3-374-363-01	LEVER (FWD)	
103	3-343-264-81	COLLAR, SPRING	
104	3-374-327-01	SPRING (N R), TORSION	
* 105	3-374-370-01	SLIDER (HD)	
106	3-374-342-01	SPRING (HEAD), TORSION	
* 107	3-381-657-01	CHSSIS, HEAD	
108	3-380-814-01	SPRING, TENSION	
109	3-344-737-11	SCREW (B1.4X6), TAPPING	
110	3-309-597-81	SCREW (1.4), TAPPING	
111	X-3365-422-3	HOLDER ASSY, HEAD	
112	3-374-345-01	SPRING, TENSION	
113	3-374-344-01	GUIDE, EH	
114	3-386-829-01	SPRING, TENSION	
115	3-381-660-01	LEVER (FAN-SHAPED)	
* 116	3-381-658-02	GEAR (BASE), HEAD	
117	3-328-432-01	WASHER, STOPPER	
* 118	1-645-055-21	HEAD RELAY BOARD	
119	3-376-135-01	SPRING, CASSETTE	
120	3-366-051-11	PINCH ROLLER	
121	3-366-052-11	SHAFT, PINCH ROLLER	
122	3-374-347-01	SPRING (R), TORSION	
* 123	3-374-373-01	LEVER (PINCH R)	
124	4-930-408-11	CLAW, REEL	
125	3-374-339-01	GEAR, FR	

Ref. No.	Part No.	Description	Remark
126	3-374-368-01	LEVER (FF)	
* 127	3-374-372-01	LEVER (PINCH N)	
128	3-374-346-01	SPRING (N), TORSION	
129	3-374-330-01	LEVER (DIR A)	
130	3-374-365-01	GEAR (NR), CAM	
131	3-374-364-01	SLIDER (NR)	
132	3-374-331-01	SPRING (DIR), TORSION	
133	4-930-451-01	SPRING	
134	3-374-335-01	LEVER (ERASE N)	
135	3-374-332-01	SLIDER (BRAKE)	
136	3-374-333-01	LEVER (PAUSE)	
137	3-374-334-01	SPRING (BRAKE), TORSION	
138	3-374-366-01	LEVER (ERASE R)	
* 139	3-374-367-01	LEVER (EJECT)	
140	3-374-336-01	LEVER (SW)	
141	3-377-194-01	SPRING, TENSION	
142	4-931-747-11	SPRING, COMPRESSION	
143	3-374-338-01	LEVER (REW)	
144	3-374-326-01	TABLE, REEL	
145	3-377-195-01	WASHER (S)	
146	3-374-329-01	GEAR, MIDWAY	
HE901	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-013-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
S402	1-570-559-11	SWITCH, LEAF (DIR)	

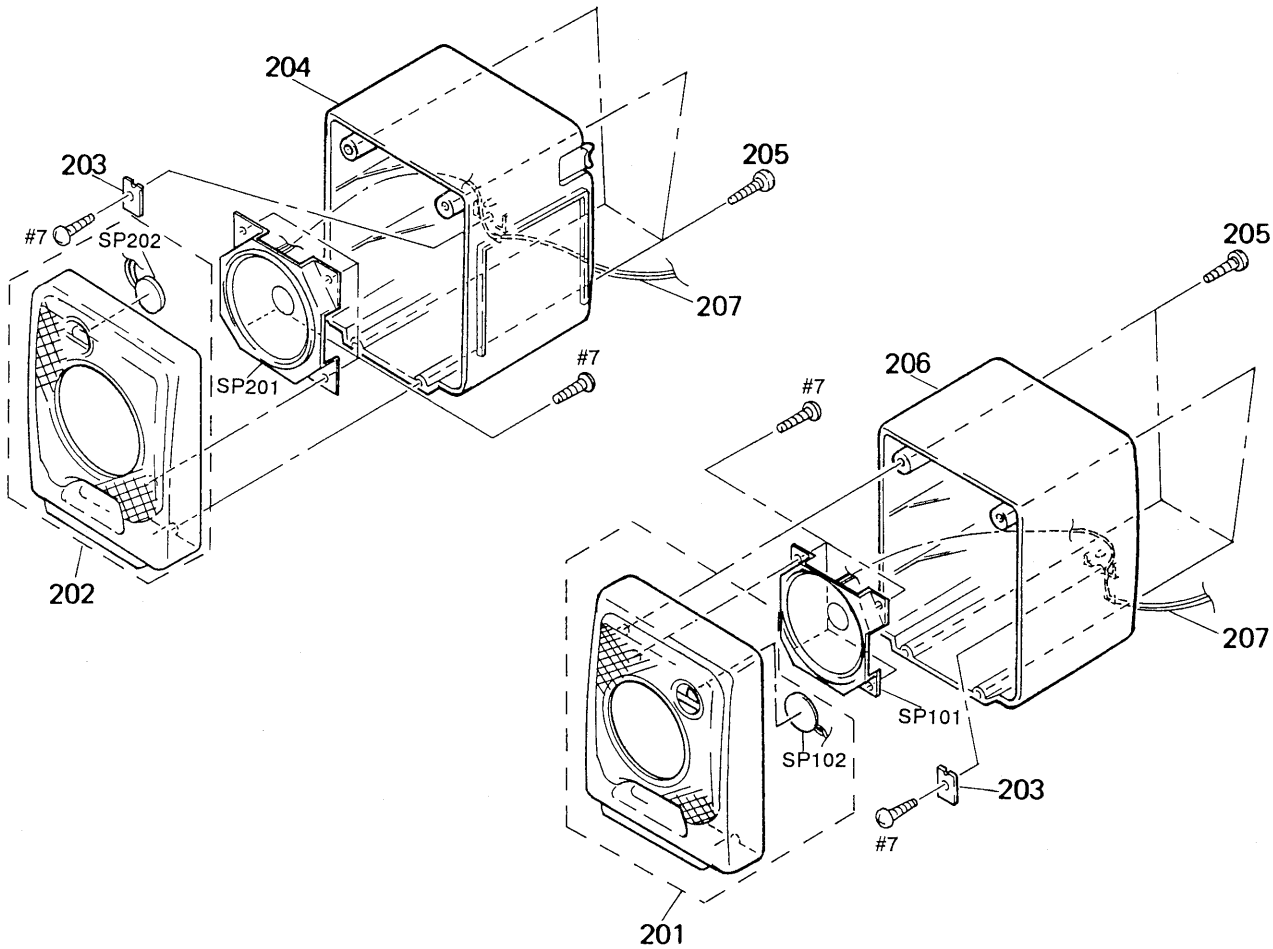
(4) MECHANISM DECK SECTION-2 (MF-1045-102)



Ref. No.	Part No.	Description	Remark
151	3-374-324-01	RING, RETAINING	
* 152	3-374-348-01	SLIDER (FR)	
153	3-374-350-01	SLIDER (LOCK)	
154	4-932-648-01	SPRING, COMPRESSION	
* 155	3-374-349-01	SLIDER (SW)	
156	3-374-351-01	SLIDER (STOP)	
157	3-374-352-01	SLIDER (PAUSE)	
158	3-374-353-01	SLIDER (FF)	
159	3-374-354-01	SLIDER (REW)	
160	3-374-355-01	SLIDER (FWD)	
161	3-374-356-01	SLIDER (REC)	
162	3-374-304-01	LEVER (PAUSE ROCK)	
* 163	3-374-315-01	SLIDER (CR)	
164	3-374-313-01	SPRING (S OFF), TORSION	
165	3-374-312-01	LEVER (S OFF B)	
166	3-374-311-01	SPRING (S OFF C), TORSION	
167	3-374-357-01	LEVER (S OFF C)	
168	3-344-737-11	SCREW (B1.4X6), TAPPING	
169	3-374-309-01	SPRING (REC), TORSION	
170	3-374-314-01	LEVER (DIR B)	
171	3-374-358-01	SLIDER (ERASING)	
* 172	1-651-489-11	MD BOARD	

Ref. No.	Part No.	Description	Remark
173	3-374-323-01	BELT	
174	3-374-318-11	GEAR (A), DECELERATION	
175	X-3365-411-1	FLY ASSY (N2)	
176	X-3363-913-1	FLY ASSY (R)	
177	3-374-321-01	BELT	
178	X-3363-917-1	LIMITER ASSY, FWD	
179	3-683-454-01	WASHER, POLYETHYLENE	
180	3-374-325-01	GEAR (B), DECELERATION	
181	3-374-308-01	SPRING (CONTROL), TORSION	
182	3-375-011-01	SPRING, COMPRESSION	
* 183	3-374-316-01	LEVER (S OFF A)	
184	3-374-359-11	GEAR (S OFF), CAM	
185	3-374-306-01	SLIDER (MODE B)	
186	3-374-307-01	SPRING (MUTUAL), TORSION	
* 187	3-374-305-01	SLIDER (MODE A)	
188	3-374-310-01	SPRING (FWD), TORSION	
* 189	3-374-317-01	REINFORCEMENT	
* 190	X-3363-918-1	CHASSIS ASSY, MECHANICAL	
191	A-3253-405-A	MOTOR ASSY (9F)	
M401	1-541-630-11	MOTOR, DC (CAPSTAN/REEL)	
RV401	1-230-495-11	RES, ADJ, CARBON 2K (TAPE SPEED)	
S403	1-571-890-11	SWITCH, LEAF (PAUSE)	

(5) SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
201	A-3300-546-A	BOX (FRONT) (L) SUB ASSY, SP	
202	A-3300-547-A	BOX (FRONT) (R) SUB ASSY, SP	
* 203	1-651-484-11	RETAINER BOARD	
204	3-912-268-01	BOX (REAR) (R), SP	
205	3-325-679-31	SCREW, TAPPING +BV 3X14	
206	3-912-265-01	BOX (REAR) (L), SP	
207	1-690-969-11	CORD, SPEAKER CONNECTION	
SP101	1-504-548-11	SPEAKER (10CM)	
SP102	1-529-059-12	BUZZER	
SP201	1-504-548-11	SPEAKER (10CM)	
SP202	1-529-059-12	BUZZER	

BATTERY TERMINAL | ECM | HEAD RELAY | MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- E12:AC220-240V area model
  E23:AC110-120V area model
- Abbreviation
  UAE:United Arab Emirater

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-651-483-11	BATTERY TERMINAL BOARD			
		**********			
**********					
*	1-651-486-11	ECM BOARD			
		*********			
		<MICROPHONE ELECTRET CONDENSER >			
ECM301	1-542-118-21	MICROPHONE, ELECTRET CONDENSER (MIC)			
**********					
*	1-645-055-21	HEAD RELAY BOARD			
		**********			
*	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P BOARD			
*	1-750-166-11	HOUSING, CONNECTOR 5P			
**********					
*	A-3269-075-A	MAIN BOARD, COMPLETE (Include ECM BOARD)			
		**********			
	3-364-523-01	KNOB (FUNCTION)			
*	3-907-657-01	PLATE, CONTACT			
		< CAPACITOR >			
C103	1-124-902-00	ELECT	0.47uF	20%	50V
C104	1-162-294-31	CERAMIC	0.001uF	10%	50V
C105	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C106	1-161-040-00	CERAMIC	0.0012uF		16V
C107	1-162-292-31	CERAMIC	680PF	10%	50V
C108	1-161-020-11	CERAMIC	0.039uF	10%	16V
C109	1-124-477-11	ELECT	47uF	20%	25V
C110	1-124-903-11	ELECT	1uF	20%	50V
C111	1-124-902-00	ELECT	0.47uF	20%	50V
C112	1-162-294-31	CERAMIC	0.001uF	10%	50V
C113	1-124-927-11	ELECT	4.7uF	20%	100V
C114	1-124-902-00	ELECT	0.47uF	20%	50V
C115	1-161-379-00	CERAMIC	0.01uF	20%	25V
C116	1-162-294-31	CERAMIC	0.001uF	10%	50V
C117	1-162-282-31	CERAMIC	100PF	10%	50V
C118	1-162-282-31	CERAMIC	100PF	10%	50V
C140	1-162-294-31	CERAMIC	0.001uF	10%	50V
C141	1-124-477-11	ELECT	47uF	20%	25V
C142	1-124-443-00	ELECT	100uF	20%	10V
C143	1-124-471-00	ELECT	1000uF	20%	6.3V
C144	1-136-167-00	FILM	0.15uF	5%	50V
C203	1-124-902-00	ELECT	0.47uF	20%	50V
C204	1-162-294-31	CERAMIC	0.001uF	10%	50V
C205	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C206	1-161-040-00	CERAMIC	0.0012uF		16V
C207	1-162-292-31	CERAMIC	680PF	10%	50V
C208	1-161-020-11	CERAMIC	0.039uF	10%	16V
C209	1-124-477-11	ELECT	47uF	20%	25V
C210	1-124-903-11	ELECT	1uF	20%	50V
C211	1-124-902-00	ELECT	0.47uF	20%	50V
C212	1-162-294-31	CERAMIC	0.001uF	10%	50V
C213	1-124-927-11	ELECT	4.7uF	20%	100V
C214	1-124-902-00	ELECT	0.47uF	20%	50V
C215	1-161-379-00	CERAMIC	0.01uF	20%	25V
C216	1-162-294-31	CERAMIC	0.001uF	10%	50V
C217	1-162-282-31	CERAMIC	100PF	10%	50V
C218	1-162-282-31	CERAMIC	100PF	10%	50V
C240	1-162-294-31	CERAMIC	0.001uF	10%	50V
C241	1-124-477-11	ELECT	47uF	20%	25V
C242	1-124-443-00	ELECT	100uF	20%	10V
C243	1-124-471-00	ELECT	1000uF	20%	6.3V
C244	1-136-167-00	FILM	0.15uF	5%	50V
C302	1-124-463-00	ELECT	0.1uF	20%	50V
C303	1-162-849-11	CERAMIC	0.068uF	10%	16V
C304	1-162-294-31	CERAMIC	0.001uF	10%	50V
C305	1-124-902-00	ELECT	0.47uF	20%	50V
C306	1-124-477-11	ELECT	47uF	20%	25V
C307	1-124-907-11	ELECT	10uF	20%	50V
C309	1-124-907-11	ELECT	10uF	20%	50V
C311	1-124-472-11	ELECT	470uF	20%	10V
C312	1-126-176-11	ELECT	220uF	20%	10V
C313	1-124-907-11	ELECT	10uF	20%	50V
C314	1-162-294-31	CERAMIC	0.001uF	10%	50V
C320	1-124-443-00	ELECT	100uF	20%	10V
C322	1-162-294-31	CERAMIC	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C323	1-130-480-00	MYLAR	0.0056uF	5%	50V
C326	1-162-294-31	CERAMIC	0.001uF	10%	50V
C332	1-124-925-11	ELECT	2.2uF	20%	100V
C333	1-124-927-11	ELECT	4.7uF	20%	100V
C334	1-124-927-11	ELECT	4.7uF	20%	100V
C337	1-124-477-11	ELECT	47uF	20%	25V
C340	1-126-176-11	ELECT	220uF	20%	10V
C341	1-124-563-11	ELECT	2200uF	20%	25V
C342	1-104-792-51	ELECT	33uF	20%	50V
C343	1-124-120-11	ELECT	220uF	20%	25V
C360	1-126-176-11	ELECT	220uF	20%	10V
C361	1-124-443-00	ELECT	100uF	20%	10V
C362	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP304	1-691-577-11	PIN, CONNECTOR (PC BOARD) 6P			
		< DIODE >			
D302	8-719-812-41	DIODE	TLR124 (OPR/BATT)		
D303	8-719-109-97	DIODE	RD6.8ES-B2		
D304	8-719-901-33	DIODE	1SS133		
D330	8-719-901-33	DIODE	1SS133		
D337	8-719-901-33	DIODE	1SS133		
D338	8-719-901-33	DIODE	1SS133		
D339	8-719-901-33	DIODE	1SS133		
D340	8-719-901-33	DIODE	1SS133		
D341	8-719-901-33	DIODE	1SS133		
D342	8-719-901-33	DIODE	1SS133		
		< IC >			
IC301	8-759-247-00	IC	TA2067N		
IC302	8-752-067-34	IC	CXA1352AS		
IC303	8-759-060-21	IC	LA4598		
		< JACK >			
J303	1-568-267-11	JACK (PHONES)			
J304	1-537-330-11	TERMINAL BOARD (SPEAKER)			
		< CABLE HOLDER >			
* KH301	1-565-384-11	HOLDER, CABLE 3P			
		< TRANSISTOR >			
Q101	8-729-206-28	TRANSISTOR	RN1210		
Q102	8-729-206-28	TRANSISTOR	RN1210		
Q201	8-729-206-28	TRANSISTOR	RN1210		
Q202	8-729-206-28	TRANSISTOR	RN1210		
Q301	8-729-194-57	TRANSISTOR	2SC945-P		

Ref. No.	Part No.	Description			Remark
⚠Q302	8-729-140-98	TRANSISTOR	2SD773-34		
Q304	8-729-206-31	TRANSISTOR	RN2202		
Q305	8-729-206-31	TRANSISTOR	RN2202		
Q306	8-729-206-83	TRANSISTOR	RN2210TPE4		
Q307	8-729-206-31	TRANSISTOR	RN2202		
Q310	8-729-206-28	TRANSISTOR	RN1210		
Q331	8-729-206-36	TRANSISTOR	RN2207TPE4		
		< RESISTOR >			
R103	1-249-401-11	CARBON	47	5%	1/4W F
R104	1-249-431-11	CARBON	15K	5%	1/4W
R105	1-249-440-11	CARBON	82K	5%	1/4W
R106	1-249-423-11	CARBON	3.3K	5%	1/4W F
R107	1-249-404-00	CARBON	82	5%	1/4W
R108	1-249-428-11	CARBON	8.2K	5%	1/4W F
R109	1-249-419-11	CARBON	1.5K	5%	1/4W F
R110	1-249-429-11	CARBON	10K	5%	1/4W
R111	1-247-807-11	CARBON	100	5%	1/4W
R140	1-249-429-11	CARBON	10K	5%	1/4W
R141	1-247-811-11	CARBON	150	5%	1/4W
R142	1-249-389-11	CARBON	4.7	5%	1/4W F
R143	1-247-811-11	CARBON	150	5%	1/4W
R144	1-249-406-11	CARBON	120	5%	1/4W F
R145	1-247-807-11	CARBON	100	5%	1/4W
R203	1-249-401-11	CARBON	47	5%	1/4W F
R204	1-249-431-11	CARBON	15K	5%	1/4W
R205	1-249-440-11	CARBON	82K	5%	1/4W
R206	1-249-423-11	CARBON	3.3K	5%	1/4W F
R207	1-249-404-00	CARBON	82	5%	1/4W
R208	1-249-428-11	CARBON	8.2K	5%	1/4W F
R209	1-249-419-11	CARBON	1.5K	5%	1/4W F
R210	1-249-429-11	CARBON	10K	5%	1/4W
R211	1-247-807-11	CARBON	100	5%	1/4W
R240	1-249-429-11	CARBON	10K	5%	1/4W
R241	1-247-811-11	CARBON	150	5%	1/4W
R242	1-249-389-11	CARBON	4.7	5%	1/4W F
R243	1-247-811-11	CARBON	150	5%	1/4W
R244	1-249-406-11	CARBON	120	5%	1/4W F
R245	1-247-807-11	CARBON	100	5%	1/4W
R303	1-247-807-11	CARBON	100	5%	1/4W
R304	1-249-419-11	CARBON	1.5K	5%	1/4W F
R305	1-249-417-11	CARBON	1K	5%	1/4W F
R306	1-247-903-00	CARBON	1M	5%	1/4W
R307	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R320	1-247-811-11	CARBON	150	5%	1/4W
R321	1-249-435-11	CARBON	33K	5%	1/4W
R322	1-249-393-11	CARBON	10	5%	1/4W F

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MAIN **MD** **POWER** **TUNER**

Ref. No.	Part No.	Description				Remark
R330	1-249-429-11	CARBON	10K	5%	1/4W	
R333	1-249-441-11	CARBON	100K	5%	1/4W	
R334	1-249-426-11	CARBON	5.6K	5%	1/4W	
R336	1-249-437-11	CARBON	47K	5%	1/4W	
R338	1-247-884-11	CARBON	160K	5%	1/4W	
⚠R360	1-249-385-11	CARBON	2.2	5%	1/6W	F
R362	1-249-416-11	CARBON	820	5%	1/4W	F
R363	1-249-411-11	CARBON	330	5%	1/4W	
R364	1-249-409-11	CARBON	220	5%	1/4W	F
R365	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R368	1-249-385-11	CARBON	2.2	5%	1/4W	F
		< SWITCH >				
S301	1-570-347-11	SWITCH, LEVER SLIDE (FUNCTION)				
S302	1-571-043-11	SWITCH, PUSH (1 KEY) (PB/REC)				
		< TRANSFORMER >				
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR				
		< VARIABLE RESISTOR >				
VR302	1-223-574-11	RES, VAR, SLIDE 50KX6 (BLANCE/BASS BOOST/GRAPHIC EQUALIZER)				
**********						
*	1-651-489-11	MD BOARD				
		********				
		< CAPACITOR >				
C401	1-126-101-11	ELECT	100uF	20%	16V	
C402	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C403	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		< DIODE >				
D401	8-719-901-33	DIODE 1SS133				
		< CABLE HOLDER >				
* KH401	1-565-385-11	HOLDER, CABLE 4P				
		< TRANSISTOR >				
⚠Q401	8-729-195-23	TRANSISTOR 2SA952				
		< RESISTOR >				
R401	1-249-437-11	CARBON	47K	5%	1/4W	
R402	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R403	1-249-411-11	CARBON	330	5%	1/4W	

Ref. No.	Part No.	Description				Remark
		< SWITCH >				
S401	1-571-890-11	SWITCH, LEAF (MOTOR)				
S403	1-571-890-11	SWITCH, LEAF (PAUSE)				
**********						
*	1-651-485-11	POWER BOARD				
		**********				
	1-533-217-31	HOLDER, FUSE				
*	3-907-658-01	SPRING (CONTACT)				
		< CAPACITOR >				
C901	1-101-005-00	CERAMIC	22000PF		50V	
C902	1-101-005-00	CERAMIC	22000PF		50V	
C903	1-101-005-00	CERAMIC	22000PF		50V	
C904	1-101-005-00	CERAMIC	22000PF		50V	
C906	1-124-557-11	ELECT	1000uF	20%	25V	
		< DIODE >				
⚠D901	8-719-200-02	DIODE 10E2				
⚠D902	8-719-200-02	DIODE 10E2				
⚠D903	8-719-200-02	DIODE 10E2				
⚠D904	8-719-200-02	DIODE 10E2				
		< FUSE >				
⚠F901	1-532-611-00	FUSE (125mA/250V)				
		< JACK >				
⚠J901	1-526-838-11	INLET, AC 2P (AC IN)				
		< SWITCH >				
⚠S901	1-552-921-00	SWITCH, POWER (VOLTAGE SELECTOR)				
		< TRANSFORMER >				
⚠T901	1-423-998-21	TRANSFORMER, POWER				
**********						
*	A-3269-071-A	TUNER BOARD, COMPLETE (E, UAE)				
		**********				
*	A-3269-091-A	TUNER BOARD, COMPLETE (Saudi Arabia)				
		**********				
		< CAPACITOR >				
C1	1-162-286-31	CERAMIC	220PF	10%	50V	
C2	1-162-205-31	CERAMIC	18PF	5%	50V	(E, UAE)
C2	1-162-208-31	CERAMIC	24PF	5%	50V	(Saudi Arabia)
C4	1-161-379-00	CERAMIC	0.01uF	20%	25V	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
C5	1-104-792-51	ELECT	33uF	20%	50V
C6	1-102-953-00	CERAMIC	18PF	5%	50V (E, UAE)
C6	1-102-959-00	CERAMIC	22PF	5%	50V (Saudi Arabia)
C7	1-162-191-31	CERAMIC	2.2PF	10%	50V
C9	1-162-282-31	CERAMIC	100PF	10%	50V
C10	1-124-477-11	ELECT	47uF	20%	25V
C11	1-124-925-11	ELECT	2.2uF	20%	100V
C12	1-124-477-11	ELECT	47uF	20%	25V
C13	1-161-379-00	CERAMIC	0.01uF	20%	25V
C14	1-124-927-11	ELECT	4.7uF	20%	100V
C15	1-124-903-11	ELECT	1uF	20%	50V
C16	1-161-053-00	CERAMIC	0.015uF	10%	50V
C17	1-161-053-00	CERAMIC	0.015uF	10%	50V
C18	1-124-903-11	ELECT	1uF	20%	50V
C19	1-124-927-11	ELECT	4.7uF	20%	100V
C20	1-124-902-00	ELECT	0.47uF	20%	50V
C21	1-124-907-11	ELECT	10uF	20%	50V
C22	1-162-195-31	CERAMIC	4.7PF	10%	50V
C23	1-164-617-11	CERAMIC	4PF	5%	50V
C24	1-164-617-11	CERAMIC	4PF	5%	50V
C25	1-102-949-00	CERAMIC	12PF	5%	50V
C26	1-130-726-00	FILM	0.0015uF	5%	63V
C27	1-137-015-11	FILM	0.0047uF	5%	63V
C28	1-110-342-11	FILM	390PF	5%	63V
C29	1-162-206-31	CERAMIC	20PF	5%	50V
C31	1-161-379-00	CERAMIC	0.01uF	20%	25V
C34	1-162-294-31	CERAMIC	0.001uF	10%	50V
C36	1-162-294-31	CERAMIC	0.001uF	10%	50V
C37	1-162-282-31	CERAMIC	100PF	10%	50V
C38	1-162-282-31	CERAMIC	100PF	10%	50V
		< FILTER >			
CF1	1-577-327-81	FILTER, CERAMIC			
CF2	1-577-327-81	FILTER, CERAMIC			
CF3	1-567-670-11	FILTER, CERAMIC			
CF4	1-577-327-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CNP1	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
		< TRIMMER >			
CT1-4 CV1-4	1-151-693-11	CAP, VAR			
CT5	1-141-360-41	CAP, VAR FILM TRIMMER			
CT6	1-141-360-41	CAP, VAR FILM TRIMMER			
CT7	1-141-360-41	CAP, VAR FILM TRIMMER			
CT8	1-141-360-41	CAP, VAR FILM TRIMMER			

Ref. No.	Part No.	Description				Remark
		< DIODE >				
D1	8-719-901-33	DIODE	1SS133			
D2	8-719-901-33	DIODE	1SS133			
D3	8-719-812-41	DIODE	TLR124			(FM STEREO)
D5	8-719-901-33	DIODE	1SS133			
		< FILTER >				
FL1	1-236-711-21	FILTER, BAND PASS				
		< IC >				
IC1	8-752-050-20	IC	CXA1238S			
		< COIL >				
L1	1-422-317-31	COIL, AIR-CORE				
L2	1-422-230-11	COIL, AIR-CORE				(E, UAE)
L3	1-402-593-11	ANTENNA, FERRITE-ROD				(MW)
L4	1-406-253-11	COIL (OSC)				
L5	1-402-597-31	COIL (ANT)				
L6	1-406-469-11	COIL (OSC)				
L7	1-402-595-31	COIL (ANT)				
L8	1-406-470-11	COIL (OSC)				
L11	1-410-315-21	INDUCTOR	0.68uH			
L12	1-410-314-11	INDUCTOR	0.47uH			
L13	1-410-314-11	INDUCTOR	0.47uH			
L21	1-406-957-21	COIL (WITH CORE)				(Saudi Arabia)
		< TRANSISTOR >				
Q1	8-729-922-66	TRANSISTOR	2SC2410SN			
Q2	8-729-206-20	TRANSISTOR	RN1202			
		< RESISTOR >				
R1	1-249-398-11	CARBON	27	5%	1/4W	F
R2	1-249-441-11	CARBON	100K	5%	1/4W	
R3	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R4	1-249-411-11	CARBON	330	5%	1/4W	
R5	1-249-415-11	CARBON	680	5%	1/4W	F
R6	1-247-807-11	CARBON	100	5%	1/4W	
R7	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R8	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R9	1-249-415-11	CARBON	680	5%	1/4W	F
R10	1-247-887-00	CARBON	220K	5%	1/4W	
R11	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R12	1-247-887-00	CARBON	220K	5%	1/4W	
R13	1-249-429-11	CARBON	10K	5%	1/4W	
R14	1-249-441-11	CARBON	100K	5%	1/4W	
R15	1-249-417-11	CARBON	1K	5%	1/4W	F
R16	1-249-417-11	CARBON	1K	5%	1/4W	F

TUNER **VOL**

Ref. No.	Part No.	Description	Remark
R18	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R19	1-249-429-11	CARBON 10K 5% 1/4W	
R24	1-247-811-11	CARBON 150 5% 1/4W	
R25	1-249-423-11	CARBON 3.3K 5% 1/4W	F (E, UAE)
		< VARIABLE RESISTOR >	
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
		< SWITCH >	
S1	1-692-868-11	SWITCH, LEVER SLIDE (BAND)	
		< TRANSFORMER >	
T1	1-404-355-00	TRANSFORMER, IF	
		< VARIABLE RESISTOR >	
VR1	1-223-425-11	RES, VAR, CARBON 100K (FINE TUNING)	
**********			
*	1-651-491-11	VOL BOARD	
		*********	
		< CABLE HOLDER >	
* KH302	1-565-384-11	HOLDER, CABLE 3P	
		< VARIABLE RESISTOR >	
VR301	1-241-374-11	RES, VAR, CARBON 50K (VOLUME)	
**********			
		MISCELLANEOUS	
		************	
207	1-690-969-11	CORD, SPEAKER CONNECTION	
ANT901	1-501-383-21	ANTENNA, TELESCOPIC (FM/SW)	
HE901	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-013-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M401	1-541-630-11	MOTOR, DC (CAPSTAN/REEL)	
RV401	1-230-495-11	RES, ADJ, CARBON 2K (TAPE SPEED)	
S402	1-570-559-11	SWITCH, LEAF (DIR)	
S403	1-571-890-11	SWITCH, LEAF (PAUSE)	
SP10	1-504-548-11	SPEAKER (10CM)	
SP102	1-529-059-12	BUZZER	
SP201	1-504-548-11	SPEAKER (10CM)	
SP202	1-529-059-12	BUZZER	
**********			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		******************************	
⚠	1-551-983-00	CORD, POWER (E23)	
⚠	1-555-234-00	CORD, POWER (E12, UAE)	
	1-569-007-11	ADAPTER, CONVERSION 2P (E23)	
	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
⚠	1-575-131-11	CORD, POWER SUPPLY (Saudi Arabia)	
	3-758-125-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH)	
*	3-909-591-11	CUSHION (TOP)	
*	3-909-592-11	CUSHION (BOTTOM)	
*	3-909-599-01	INDIVIDUAL CARTON	

****

HARDWARE LIST

****

#1	7-621-255-65	SCREW +PTT 2X10 (S)
#2	7-621-770-67	SCREW +P 2.6X6
#3	7-621-775-20	SCREW +B 2.6X5
#4	7-682-548-09	SCREW +P 3X8
#5	7-685-133-19	SCREW +P 2.6X6 TYPE2
#6	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT
#7	7-685-647-79	SCREW, TAPPING +BV 3X10
#8	7-685-648-79	SCREW, TAPPING +BV 3X12
#9	7-685-878-01	SCREW +BVTT 3X25 (S)
#10	7-687-233-11	SCREW, TOTSU PTPWH 2.6X6, TYPE2
#11	7-687-247-21	SCREW, TOTSU PTPWH 3X10, TYPE2

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